

ABSTRACT

A photo mask production method capable of producing in short time and at low costs a photo mask on which a correction is made for a pattern deformation produced by an optical proximity effect when transferring a mask pattern. Partial master patterns (P_i ($i=1$ to N)) formed by dividing into N segments a master pattern obtained by magnifying at a specified magnification a circuit pattern to be formed on a wafer (W) are respectively drawn on a substrate to prepare master reticles (R_i ($i=1$ to N)), and reduction images (PW_i) $1/\beta$ times as large as the partial master patterns (P_i) of the master reticles (R_i) are transferred onto a substrate (26) while image fields are joined one by one to produce a working reticle (WR). An illuminating condition required in transferring partial master pattern images of the master reticles (R_i) onto the substrate (26) is set so as to offset changes in projection images to be produced by an optical proximity effect when the mask pattern of the working reticle (WR) is transferred onto the wafer (W).